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王小艺

时间: 2019年07月31日 14:30 来源: 作者:

王小艺简历

(2021. 4. 2更新)

姓名: 王小艺
性别: 男
学历或学位: 博士
职称: 研究员

毕业院校/时间

1992~1996年, 湖南农业大学, 植物保护专业, 大学本科
1996~1999年, 华南农业大学, 农业昆虫与害虫防治专业, 硕士
1999~2002年, 中国农业大学, 农业昆虫与害虫防治专业, 博士

工作经历:

2002年7月~2003年7月, 湖南化工研究院, 助理研究员
2003年8月~2005年4月, 中国林业科学研究院森林生态环境与保护研究所博士后, 出站后留所工作至今
2013年11月~2014年10月, 美国农业部农业研究局天敌引进实验室, 访问学者
2015年12月~2016年11月, 新疆生产建设兵团第六师农科所, 博士服务团成员
2005年9月晋升副研究员, 2010年11月晋升研究员, 2013年9月担任博士生导师, 2014年11月任天敌昆虫与生物防治学科组首席专家, 2016年10月任副所长

社会兼职:

中国昆虫学会常务理事、中国林学会森林昆虫分会副主任委员兼秘书长、北京昆虫学会副理事长、《林业科学研究》编委、《环境昆虫学报》编委、《南京林业大学学报》编委、《中国森林病虫》编委

主要研究方向和主持的主要课题:

主要研究方向: 林业害虫生物防治

主持的主要项目:

- 1) 国家十三五重点研发计划项目: 森林生态系统重要生物危害因子综合防控关键技术研究(2018YFC1200400), 2018-2021, 2318万元
- 2) 国家自然科学基金面上项目: 寄生蜂自然分布南界的形成机制研究(31971666), 2020-2023, 58万元
- 3) 国家自然科学基金面上项目: 寄生蜂翅型分化的环境可塑性机制研究(31370654), 2014-2017, 78万元
- 4) 国家自然科学基金面上项目: 多寄主型寄生蜂的寄主适应性机制研究(30972377), 2010-2012, 33万元
- 5) 国家自然科学基金面上项目: 寄生蜂对高度隐蔽的蛀干害虫寄主的定位机制研究(30671689), 2007-2009, 28万元
- 6) 国家自然科学基金青年基金: 林木蛀干害虫与其寄生性天敌之间的行为生态学研究(30400343), 2005-2007, 21万元
- 7) 林业行业标准项目: 白蜡窄吉丁防治技术规程, 2019-2020, 10万元
- 8) 中美国际合作项目(USDA-APHIS): Host Range and Preference of the Asian longhorned beetle, 2018-2021, 19万美元
- 9) 中美国际合作项目(USDA-APHIS): Exploration for Asian longhorned beetle and spotted lantern fly parasitoids in northeastern China, 2015-2021, 53万美元
- 10) 中美国际合作项目(USDA-ARS): Expanded Foreign Exploration for New Natural Enemies of the Emerald Ash Borer (EAB) in China for Classical Biological Control, 2017-2019, 3万美元
- 11) 中美国际合作项目(USDA-ARS): Natural Enemy Guilds of Invasive and High-Risk Wood-Boring Insects in China, 2015-2017, 2.4万美元
- 12) 林业公益性行业科研专项重点项目子课题: 利用天敌昆虫持续控制松褐天牛和光肩星天牛技术研究(201504302), 2015-2018, 86.7万元
- 13) 林业科技成果国家级推广项目: 重大林木蛀干害虫——栗山天牛无公害综合防治技术推广示范(2015-42), 2015-2017, 50万元
- 14) 国家863计划子专题: 昆虫群落多样性对松褐天牛种群的调控作用研究(2012AA101503), 2012-2015, 50万元
- 15) 国家林业公益性行业科研专项: 生物防治松褐天牛控制松材线虫病技术研究(200904025), 2009-2012, 293万元
- 16) 瑞典国际科学基金(IFS): Studies on the location mechanisms of parasitoid to highly concealed bark beetle host, 2007-2009, 1.15万美元
- 17) 瑞典国际科学基金(IFS): Research on the application of a new parasitoid *Spathius agrili* Yang on biological control of emerald ash borer *Agilus planipennis* Fairmaire, 2004-2006, 0.71万美元

获奖和荣誉:

- 第十一届梁希林业科学技术进步奖二等奖, 松褐天牛综合防控技术, 第2完成人, 2020年
- 第九届梁希林业科学技术奖二等奖, 林木蛀干害虫云斑天牛生物防治技术研究, 第2完成人, 2018年
- 新疆生产建设兵团高层次人才, 2016年
- 第六届梁希林业科学技术奖二等奖, 重大林木蛀干害虫——栗山天牛无公害综合防治技术研究, 第2完成人, 2015年
- 第五届中国昆虫学会青年科技奖, 2011年
- 第十届中国林业青年科技奖, 2009年
- 首届中国林业科学研究院杰出青年, 2008年
- 国家科学技术进步二等奖, 重大入侵性害虫——美国白蛾生物防治技术研究, 第5完成人, 2006年
- 梁希林业科学技术奖二等奖, 重大外来入侵性害虫——美国白蛾生物防治技术研究, 第5完成人, 2005年

发表论文论著:

目前已在国内外各类期刊上发表学术论文180多篇, 其中SCI收录论文40余篇, 已发表的代表性论文如下:

Wang XY*, Jennings DE, Duan JJ. Trade-offs in parasitism efficiency and brood size mediate parasitoid coexistence, with implications for biological control of the invasive emerald ash borer. *Journal of Applied Ecology*, 2015, **52**(5): 1255-1263.

Dang YQ[#], Zhang YL[#], **Wang XY***, Xin B, Quinn NF, Duan JJ. Retrospective analysis of factors affecting the distribution of an invasive wood-boring insect using native range data: the importance of host plants. *Journal of Pest Science*, 2021, 94: <https://doi.org/10.1007/s10340-020-01308-5>.

Wang XY^{#*}, Wei K[#], Yang ZQ, Jennings DE, Duan JJ. Effects of biotic and abiotic factors on phenotypic partitioning of wing morphology and development in *Sclerodermus pupariae* (Hymenoptera: Bethyilidae). *Scientific Reports*, 2016, **6**: 26408. doi: 10.1038/srep26408.

Zhang YF, Manzoor A, **Wang XY***. Mitochondrial DNA analysis reveals spatial genetic structure and high genetic diversity of *Massicus raddei* (Blessig) (Coleoptera: Cerambycidae) in China. *Ecology and Evolution*, 2020, 10: 11657-11670.

- Wang XY***, Cao LM, Yang ZQ, Duan JJ, Gould JR, Bauer LS. Natural enemies of emerald ash borer (Coleoptera: Buprestidae) in northeast China, with notes on two species of parasitic Coleoptera. *The Canadian Entomologist*, 2016, 148(3): 329-342.
- Wang XY**, Yang ZQ*, Situ CN, Wang J, Fu FY. New method for rapidly estimating population densities of the concealed wood-borer *Monochamus alternatus* (Coleoptera: Cerambycidae) in the field. *Entomological Research*, 2016, 46(2): 113-121.
- Wang XY**, Tang YL, Lu JF, Yang ZQ*. Biomass evaluation of concealed insect pests at parasitism based on allometric scaling laws. *Phytoparasitica*, 2013, 41(4): 435-441.
- Wang XY**, Yang ZQ*, Gould JR. Sensilla of wasp *Spathius agrili* Yang (Hymenoptera: Braconidae) on the antennae, tarsi and ovipositor. *Microscopy Research and Technique*, 2010, 73(5): 560-571.
- Wang XY**, Yang ZQ*, Gould JR, Reardon RC, Zhang YN, Liu GJ, Liu ES. The biology and ecology of the emerald ash borer, *Agilus planipennis* Fairmaire (Coleoptera: Buprestidae) in China. *Journal of Insect Science*, 2010, 10: 128.
- Wang XY**, Yang ZQ*, Gould JR, Wu H, Ma JH. Host-seeking behavior and parasitism by *Spathius agrili* Yang (Hymenoptera: Braconidae), a parasitoid of the emerald ash borer. *Biological Control*, 2010, 52(1): 24-29.
- Wang XY**, Yang ZQ*, Wu H, Gould JR. Effects of host size on the sex ratio, clutch size and size of adult *Spathius agrili*, an ectoparasitoid of emerald ash borer. *Biological Control*, 2008, 44(1): 7-12.
- Xin B[#], Zhang YL[#], **Wang XY***, Cao LM, Hoelmer K, Broadley HJ, Gould JR. Exploratory survey of Spotted lanternfly (Hemiptera: Fulgoridae) and its natural enemies in China. *Environmental Entomology*, 2021, 50(1): 36-45.
- Wang XY***, Yang ZQ, Shen ZR, Jian L, Xu WB. Sublethal effects of selected insecticides on the fecundity and wing dimorphism of the green peach aphid *Myzus persicae* (Homoptera: Aphididae). *Journal of Applied Entomology*, 2008, 132(2): 135-142.
- Wang XY***, Shen ZR. Potency of some novel insecticides at various environmental temperatures on *Myzus persicae* (Homoptera: Aphididae). *Phytoparasitica*, 2007, 35(4): 414-422.
- Hu S, **Wang XY***, Yang ZQ, Duan JJ. Effects of photoperiod and light intensity on wing dimorphism and development in the parasitoid *Sclerodermus pupariae* (Hymenoptera: Bethyilidae). *Biological Control*, 2019, 133: 117-122.
- Cao LM, **Wang XY***. The complete mitochondrial genome of the jewel beetle *Coraebus cavifrons* (Coleoptera: Buprestidae). *Mitochondrial DNA Part B*, 2019, 4(2): 2407-2408.
- Cao LM, **Wang XY***. The complete mitochondrial genome of the jewel beetle *Trachys variolaris* (Coleoptera: Buprestidae). *Mitochondrial DNA Part B*, 2019, 4(2): 3042-3043.
- Zang K, **Wang XY***, Yang ZQ, Wei K, Duan JJ. Biology and natural enemies of *Agilus fleischeri* (Coleoptera: Buprestidae), a newly emerging destructive buprestid pest in Northeast China. *Journal of Asia-Pacific Entomology*, 2017, 20(1): 47-52.
- Wei K, Tang YL, **Wang XY***, Cao LM, Yang ZQ. The developmental strategies and related profitability of an idiobiont ectoparasitoid vary with host size. *Ecological Entomology*, 2014, 39: 101-108.
- Wei K, Tang YL, **Wang XY***, Yang ZQ, Cao LM, Lu JF, Liu ES, Liu GJ. Effects of learning experience on behavior of the generalist parasitoid *Sclerodermus pupariae* to novel hosts. *Journal of Applied Entomology*, 2013, 137(6): 469-475.
- Golec JR[#], Li F[#], Cao LM, **Wang XY***, Duan JJ. Mortality factors of *Anoplophora glabripennis* (Coleoptera: Cerambycidae) infesting *Salix* and *Populus* in central, northwest, and northeast China. *Biological Control*, 2018, 126: 198-208.

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Beijing 100091, P. R. China

EDUCATION

Ph.D., 1999.9–2002.6, Entomology, Department of Entomology, China Agricultural University

M.S., 1996.9–1999.7, Entomology, Laboratory of Insect Toxicology, Department of Plant Protection, South China Agricultural University

B.S., 1992.9–1996.7, Plant Protection, Department of Plant Protection, Hunan Agricultural University

WORK EXPERIENCE

2016.10–Present, Deputy Director, Research Institute of Forest Ecology, Environment and Protection, Chinese Academy of Forestry, Beijing, China

2013.11–2014.10, Visiting Scientist, USDA-ARS, Beneficial Insects Introduction Research Unit, Newark, Delaware, USA

2010.11–Present, Professor, Research Institute of Forest Ecology, Environment and Protection, Chinese Academy of Forestry, Beijing, China

2005.9–2010.10, Associate Professor, Research Institute of Forest Ecology, Environment and Protection, Chinese Academy of Forestry, Beijing, China

2003.8–2005.8, Assistant Professor, Research Institute of Forest Ecology, Environment and Protection, Chinese Academy of Forestry, Beijing, China

2002.7–2003.7, Assistant Professor, Hunan Research Institute of Chemical Industry, Changsha, Hunan, China

RESEARCH INTERESTS:

- Biological Control; Natural enemies; Forest Entomology

Our research mainly focuses on the biological control of forest insect pests by using natural enemies, including field survey of natural enemies, evaluation of natural enemies on host population regulation, parasitoid-host interactions, competition among parasitoids, environmental adaptation, artificial rearing and release of parasitoids, etc. The research objectives involve emerald ash borer *Agilus planipennis* Fairmaire, Asian long-horned beetle *Anoplophora glabripennis* (Motschulsky), spotted lanternfly *Lycorma delicatula* (White), fall webworm *Hyphantria cunea* (Drury), oak long-horned beetle *Massicus raddei* (Blessig), pine sawyer *Monochamus alternatus* Hope, etc.

PROJECTS

Research on the integrated management key technology of important pests in forest ecosystems. Principal Investigator, National Key R & D Program of China, 3,500,000\$, 2018-2021.

Host Range and Preference of the Asian longhorned beetle. Principal Investigator, International Cooperative Project (USDA-APHIS), 190,000\$, 2018-2021.

Exploration for Asian longhorned beetle and spotted lantern fly parasitoids in northeastern China. Principal Investigator, International Cooperative Project (USDA-APHIS), 530,000\$, 2015-2021.

Expanded Foreign Exploration for New Natural Enemies of the Emerald Ash Borer (EAB) in China for Classical Biological Control. Principal Investigator, International Cooperative Project (USDA-ARS), 30,000\$, 2017-2019.

Natural Enemy Guilds of Invasive and High-Risk Wood-Boring Insects in China. Principal Investigator, International Cooperative Project (USDA-ARS), 24,000\$, 2015-2017.

The formative mechanisms of southern limits in natural distribution of parasitoids. Principal Investigator, National Natural Science Foundation of China (Granted No: 31971666), RMB 580,000, 2020-2023.

Studies on the environmental plasticity mechanisms of wing morph differentiation of parasitoids. Principal Investigator, National Natural Science Foundation of China (Granted No: 31370654), RMB 780,000, 2014-2017.

Studies on host adaptive mechanisms of generalist parasitoid. Principal Investigator, National Natural Science Foundation of China (Granted No: 30972377), RMB 330,000, 2010-2012.

Location mechanisms of parasitoids to highly concealed wood boring hosts. Principal Investigator, National Natural Science Foundation of China (Granted No: 30671689), RMB 280,000, 2007-2009.

Research on the behavioral ecology between trunk borer pests and their parasitic natural enemies. Principal Investigator, National Natural Science Foundation of China (Granted No: 30400343), RMB 210,000, 2005-2007.

Biological control of vector pine sawyer *Monochamus alternatus* Hope using insect natural enemies against pine wilt disease caused by pine wood nematode *Bursaphelenchus xylophilus*. Principal Investigator, National Forestry Public Benefit Research Foundation (Granted No: 200904025), RMB 2,930,000, 2009-2012.

Studies on the location mechanisms of parasitoid to highly concealed bark beetle host. Principal Investigator, International Foundation for Science (IFS) (Granted No: D/3689-2), 11,500\$, 2007-2009.

Research on the application of a new parasitoid *Spathius agrili* Yang on biological control of emerald ash borer *Agilus planipennis* Fairmaire. Principal Investigator, International Foundation for Science (IFS) (Granted No: D/3689-1), 7,140\$, 2004-2006.

HONORS AND AWARDS

Liangxi Forestry Science & Technology Progress Award, 2nd Grade (the 2nd place), National Forestry and Grassland Administration, 2020 (Integrated management technology of *Monochamus alternatus*)

Liangxi Forestry Science & Technology Award, 2nd Grade (the 2nd place), National Forestry and Grassland Administration, 2018 (Biological control technology of wood boring insect pest *Batocera lineolata*)

Liangxi Forestry Science & Technology Award, 2nd Grade (the 2nd place), The State Forestry Administration, 2015 (The pollution-free integrated management technology of the important wood boring insect pest *Massicus raddei*)

The National Science & Technology Progress Award of China, 2nd Grade (the 5th place), the State Council of the People's Republic of China, 2006 (Biological control of the important invasive insect pest fall webworm *Hyphantria cunea*)

The 10th Chinese Forestry Youth Science & Technology Award, the State Forestry Administration of China, 2009

SCIENTIFIC SOCIETY MEMBERSHIP

The Entomological Society of China, Executive Member of the Council
Chinese Society of Forestry, Division of Forest Entomology, Deputy Director of the Council,
Secretary General
The Entomological Society of Beijing, Deputy Director of the Council
Member of Editorial Board of the journal "Forest Research"
Member of Editorial Board of the "Journal of Environmental Entomology"
Member of Editorial Board of the "Journal of Nanjing Forestry University (Natural Science Edition)"
Member of Editorial Board of the journal "Forest Pest and Disease"

SELECTED PUBLICATIONS

- Wang XY***, Jennings DE, Duan JJ. Trade-offs in parasitism efficiency and brood size mediate parasitoid coexistence, with implications for biological control of the invasive emerald ash borer. *Journal of Applied Ecology*, 2015, **52**(5): 1255-1263.
- Wang XY****, Wei K[#], Yang ZQ, Jennings DE, Duan JJ. Effects of biotic and abiotic factors on phenotypic partitioning of wing morphology and development in *Sclerodermus pupariae* (Hymenoptera: Bethyilidae). *Scientific Reports*, 2016, **6**: 26408. doi: 10.1038/srep26408.
- Wang XY***, Cao LM, Yang ZQ, Duan JJ, Gould JR, Bauer LS. Natural enemies of emerald ash borer (Coleoptera: Buprestidae) in northeast China, with notes on two species of parasitic Coleoptera. *The Canadian Entomologist*, 2016, **148**(3): 329-342.
- Wang XY**, Yang ZQ*, Situ CN, Wang J, Fu FY. New method for rapidly estimating population densities of the concealed wood-borer *Monochamus alternatus* (Coleoptera: Cerambycidae) in the field. *Entomological Research*, 2016, **46**(2): 113-121.
- Wang XY**, Tang YL, Lu JF, Yang ZQ*. Biomass evaluation of concealed insect pests at parasitism based on allometric scaling laws. *Phytoparasitica*, 2013, **41**(4): 435-441.
- Wang XY**, Yang ZQ*, Gould JR. Sensilla of wasp *Spathius agrili* Yang (Hymenoptera: Braconidae) on the antennae, tarsi and ovipositor. *Microscopy Research and Technique*, 2010, **73**(5): 560-571.
- Wang XY**, Yang ZQ*, Gould JR, Reardon RC, Zhang YN, Liu GJ, Liu ES. The biology and ecology of the emerald ash borer, *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae) in China. *Journal of Insect Science*, 2010, **10**: 128.
- Wang XY**, Yang ZQ*, Gould JR, Wu H, Ma JH. Host-seeking behavior and parasitism by *Spathius agrili* Yang (Hymenoptera: Braconidae), a parasitoid of the emerald ash borer. *Biological Control*, 2010, **52**(1): 24-29.
- Wang XY**, Yang ZQ*, Wu H, Gould JR. Effects of host size on the sex ratio, clutch size and size of adult *Spathius agrili*, an ectoparasitoid of emerald ash borer. *Biological Control*, 2008, **44**(1): 7-12.
- Wang XY***, Yang ZQ, Shen ZR, Jian L, Xu WB. Sublethal effects of selected insecticides on the fecundity and wing dimorphism of the green peach aphid *Myzus persicae* (Homoptera: Aphidae). *Journal of Applied Entomology*, 2008, **132**(2): 135-142.
- Wang XY***, Shen ZR. Potency of some novel insecticides at various environmental temperatures on *Myzus persicae* (Homoptera: Aphidae). *Phytoparasitica*, 2007, **35**(4): 414-422.
- Hu S, **Wang XY***, Yang ZQ, Duan JJ. Effects of photoperiod and light intensity on wing dimorphism and development in the parasitoid *Sclerodermus pupariae* (Hymenoptera: Bethyilidae). *Biological Control*, 2019, **133**: 117-122.
- Cao LM, **Wang XY***. The complete mitochondrial genome of the jewel beetle *Coraebus cavifrons* (Coleoptera: Buprestidae). *Mitochondrial DNA Part B*, 2019, **4**(2): 2407-2408.
- Cao LM, **Wang XY***. The complete mitochondrial genome of the jewel beetle *Trachys variolaris* (Coleoptera: Buprestidae). *Mitochondrial DNA Part B*, 2019, **4**(2): 3042-3043.
- Zang K, **Wang XY***, Yang ZQ, Wei K, Duan JJ. Biology and natural enemies of *Agrilus fleischeri* (Coleoptera: Buprestidae), a newly emerging destructive buprestid pest in Northeast China. *Journal of Asia-Pacific Entomology*, 2017, **20**(1): 47-52.
- Dang YQ[#], Zhang YL[#], **Wang XY***, Xin B, Quinn NF, Duan JJ. Retrospective analysis of factors affecting the distribution of an invasive wood-boring insect using native range data: the importance of host plants. *Journal of Pest Science*, 2021, **94**: <https://doi.org/10.1007/s10340-020-01308-5>.
- Xin B[#], Zhang YL[#], **Wang XY***, Cao LM, Hoelmer K, Broadley HJ, Gould JR. Exploratory survey of Spotted lanternfly (Hemiptera: Fulgoridae) and its natural enemies in China. *Environmental Entomology*, 2021, **50**(1): 36-45.
- Zhang YF, Manzoor A, **Wang XY***. Mitochondrial DNA analysis reveals spatial genetic structure and high genetic diversity of *Massicus raddei* (Blessig) (Coleoptera: Cerambycidae) in China. *Ecology and Evolution*, 2020, **10**: 11657-11670.
- Wei K, Tang YL, **Wang XY***, Cao LM, Yang ZQ. The developmental strategies and related profitability of an idiobiont ectoparasitoid vary with host size. *Ecological Entomology*, 2014, **39**: 101-108.
- Wei K, Tang YL, **Wang XY***, Yang ZQ, Cao LM, Lu JF, Liu ES, Liu GJ. Effects of learning experience on behavior of the generalist parasitoid *Sclerodermus pupariae* to novel hosts. *Journal of Applied Entomology*, 2013, **137**(6): 469-475.
- Golec JR[#], Li F[#], Cao LM, **Wang XY***, Duan JJ. Mortality factors of *Anoplophora glabripennis* (Coleoptera: Cerambycidae) infesting *Salix* and *Populus* in central, northwest, and northeast China. *Biological Control*, 2018, **126**: 198-208.

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